

Report No.:

Test Time: 2022/8/29 15:20

## Luminaire Property

Luminaire Manufacturer:

Luminaire Category: PNR230MBK

Luminous Length (mm): 600

Luminous Height (mm): 22

Current: 0.480 A

Power Factor: 1.000

Luminaire Description: PNR230MBK

Luminous Width (mm): 35

Voltage: 24.0 V

Power: 11.51 W

## Photometric Results

CIE Class: Direct

Measurement Flux: 782.1 lm

Downward Ratio: 99%

Horizontal Diffuse Angle(10%,50%): H152.4,H100.1

Vertical Diffuse Angle(10%,50%): V155.3,V102.2

Luminaire Efficacy Rating (LER): 68

Max. Intensity: 317.28 cd

Total Rated Lamp Lumens: 782.1 lm

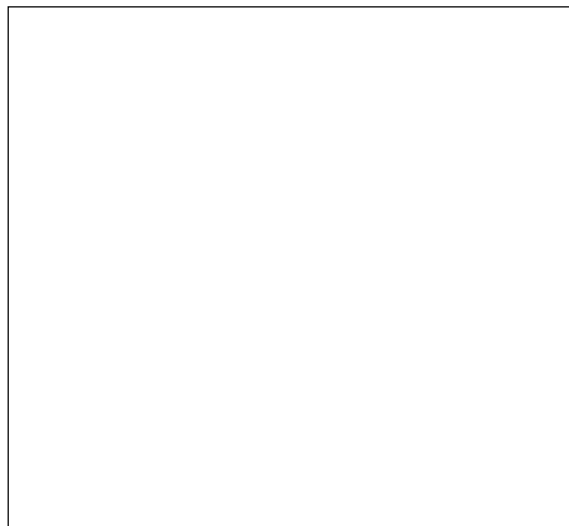
Efficiency: 100%

Upward Ratio: 1%

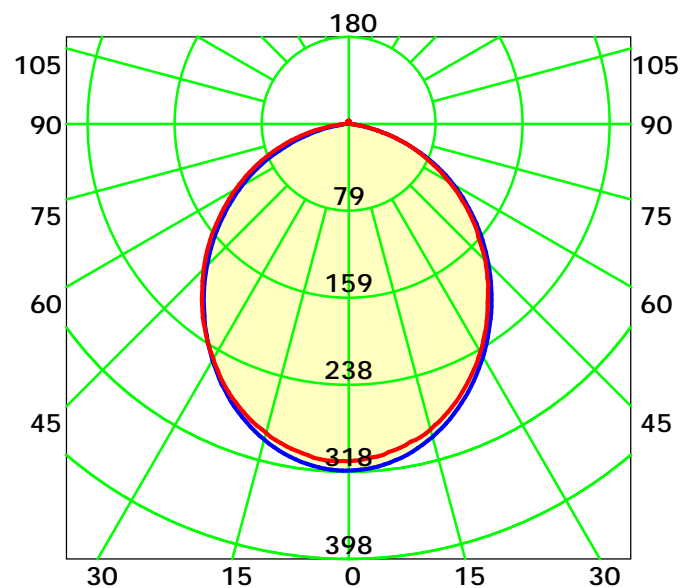
Central Intensity: 317.2 cd

Pos of Max. Intensity: H180 V1

Picture Of Luminaire



Luminous Intensity Distribution Curve



Average Diffuse Angle(50%): 101.1° Unit: cd

— C0-C180 — C90-C270

C Plane (°):0.0-360.0: 30.0

Test Lab:

Test Type: TYPE C

Temperature: 25

Operator: Jacky

Gamma Plane (°):0.0-180.0: 1.0

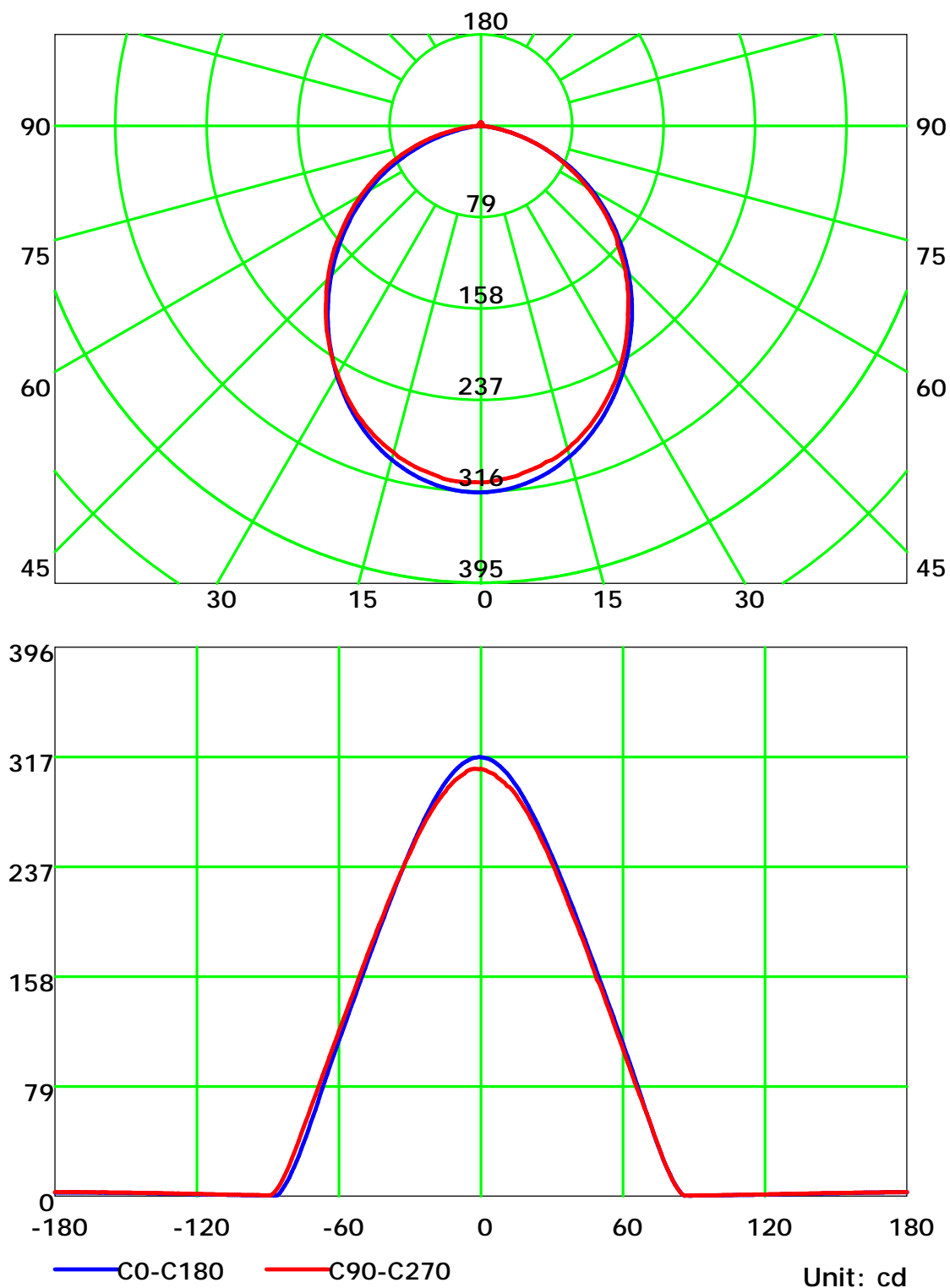
Test Device: GPM-1800B

Distance: 9.028 m

Humidity: 60%

Inspector:

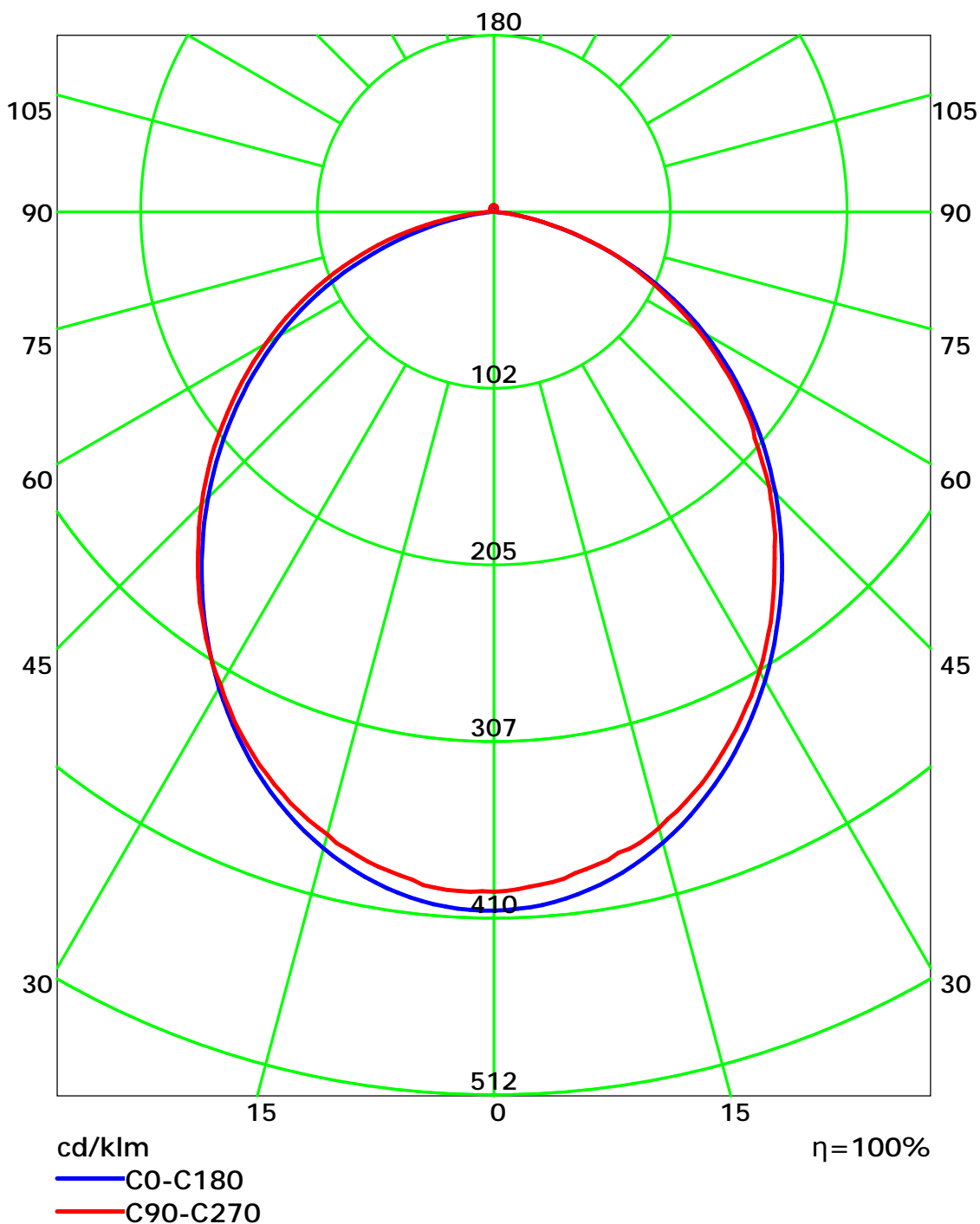
## Luminous Intensity Distribution Curve



C Plane (°): 0.0-360.0: 30.0  
Test Lab:  
Test Type: TYPE C  
Temperature: 25  
Operator: Jacky

Gamma Plane (°): 0.0-180.0: 1.0  
Test Device: GPM-1800B  
Distance: 9.028 m  
Humidity: 60%  
Inspector:

## Luminous Intensity Distribution Curve(cd/klm)



C Plane (°):0.0-360.0: 30.0  
Test Lab:  
Test Type: TYPE C  
Temperature: 25  
Operator: Jacky

Gamma Plane (°):0.0-180.0:1.0  
Test Device: GPM-1800B  
Distance: 9.028 m  
Humidity: 60%  
Inspector:

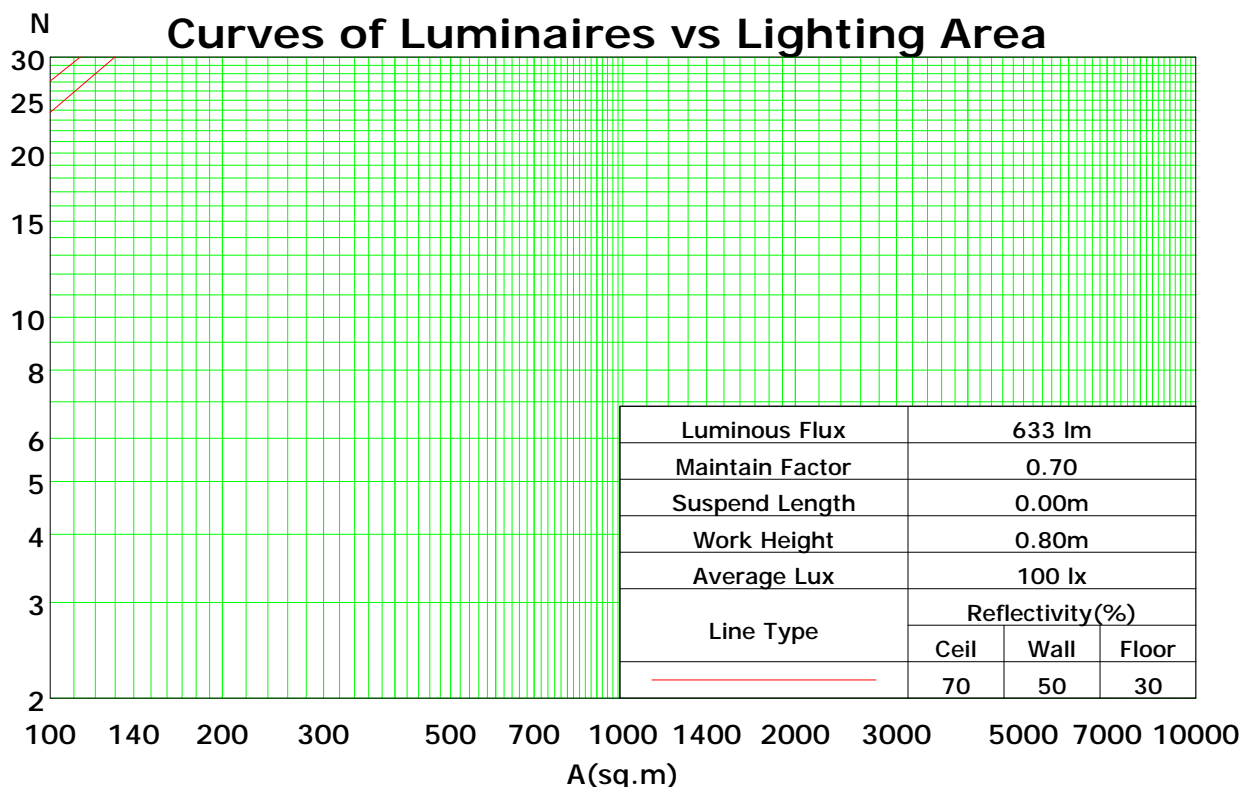
## Coefficients Of Utilization - Zonal Cavity Method

|     |          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |
|-----|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|
| RC  | 0.8      | 0.8 | 0.8 | 0.8 | 0.7 | 0.7 | 0.7 | 0.7 | 0.5 | 0.5 | 0.5 | 0.3 | 0.3 | 0.3 | 0.1 | 0.1 | 0.1 | 0  |
| RW  | 0.7      | 0.5 | 0.3 | 0.1 | 0.7 | 0.5 | 0.3 | 0.1 | 0.5 | 0.3 | 0.1 | 0.5 | 0.3 | 0.1 | 0.5 | 0.3 | 0.1 | 0  |
| RCR | RF = 0.2 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |
| 0   | 119      | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 110 | 110 | 110 | 105 | 105 | 105 | 101 | 101 | 101 | 99 |
| 1   | 109      | 105 | 101 | 97  | 106 | 102 | 99  | 95  | 98  | 95  | 92  | 94  | 91  | 89  | 90  | 88  | 86  | 84 |
| 2   | 100      | 92  | 85  | 80  | 97  | 90  | 84  | 79  | 86  | 81  | 77  | 83  | 79  | 75  | 79  | 76  | 73  | 71 |
| 3   | 91       | 81  | 73  | 67  | 89  | 79  | 72  | 66  | 76  | 70  | 65  | 73  | 68  | 64  | 71  | 66  | 62  | 60 |
| 4   | 84       | 72  | 64  | 57  | 81  | 71  | 63  | 57  | 68  | 61  | 56  | 66  | 60  | 55  | 63  | 58  | 54  | 52 |
| 5   | 77       | 65  | 56  | 49  | 75  | 63  | 55  | 49  | 61  | 54  | 48  | 59  | 53  | 48  | 57  | 52  | 47  | 45 |
| 6   | 71       | 58  | 50  | 43  | 69  | 57  | 49  | 43  | 55  | 48  | 43  | 54  | 47  | 42  | 52  | 46  | 42  | 40 |
| 7   | 66       | 53  | 44  | 38  | 64  | 52  | 44  | 38  | 50  | 43  | 38  | 49  | 42  | 37  | 47  | 42  | 37  | 35 |
| 8   | 62       | 48  | 40  | 34  | 60  | 48  | 40  | 34  | 46  | 39  | 34  | 45  | 38  | 34  | 44  | 38  | 33  | 31 |
| 9   | 58       | 45  | 36  | 31  | 56  | 44  | 36  | 31  | 43  | 36  | 31  | 41  | 35  | 30  | 40  | 35  | 30  | 28 |
| 10  | 54       | 41  | 33  | 28  | 53  | 41  | 33  | 28  | 40  | 33  | 28  | 38  | 32  | 28  | 38  | 32  | 28  | 26 |

Spacing Criteria (0-180): 1.17

Spacing Criteria (90-270): 1.18

Spacing Criteria (Diagonal): 1.28



C Plane (°):0.0-360.0: 30.0

Test Lab:

Test Type: TYPE C

Temperature: 25

Operator: Jacky

Gamma Plane (°):0.0-180.0:1.0

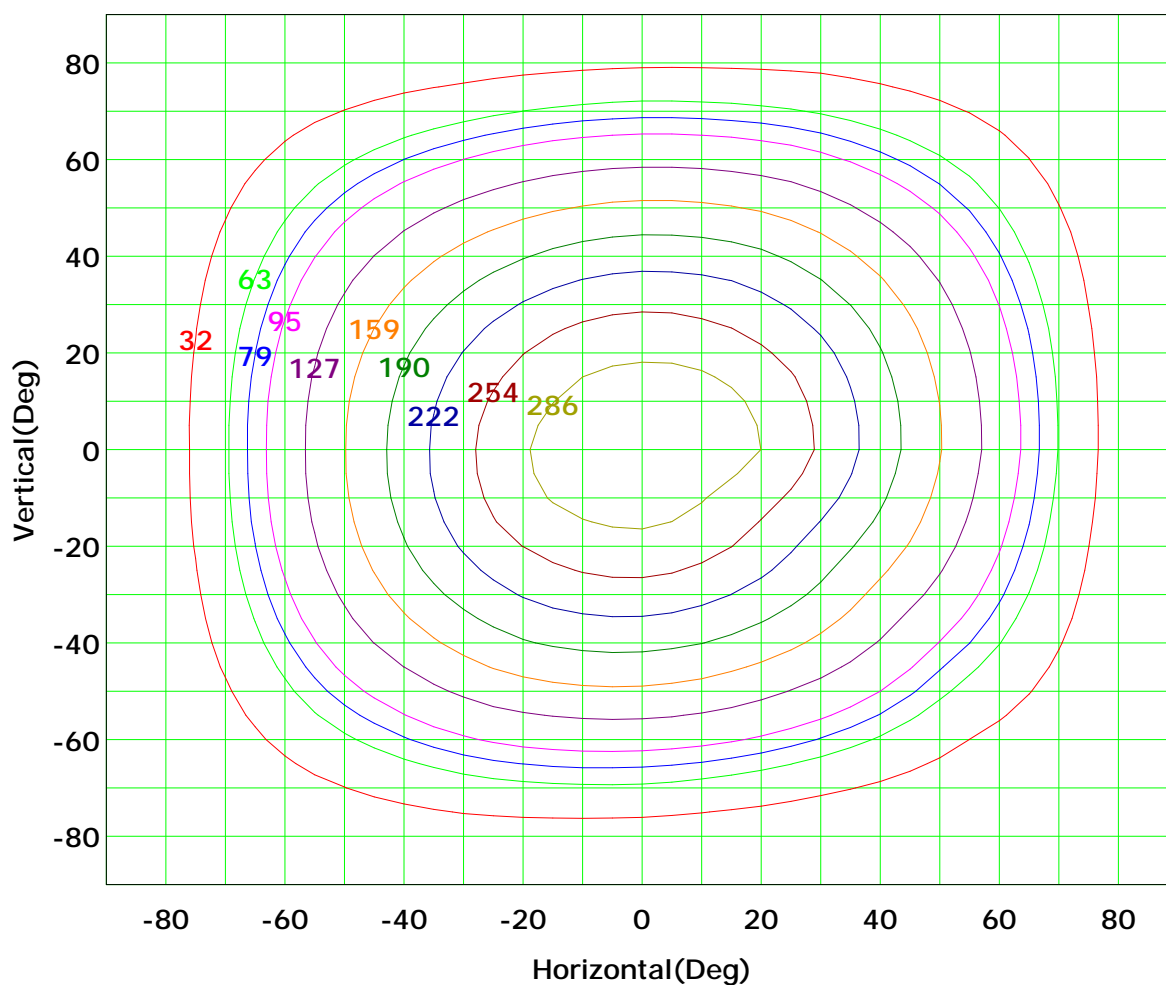
Test Device: GPM-1800B

Distance: 9.028 m

Humidity: 60%

Inspector:

## Isocandela (rectangle)



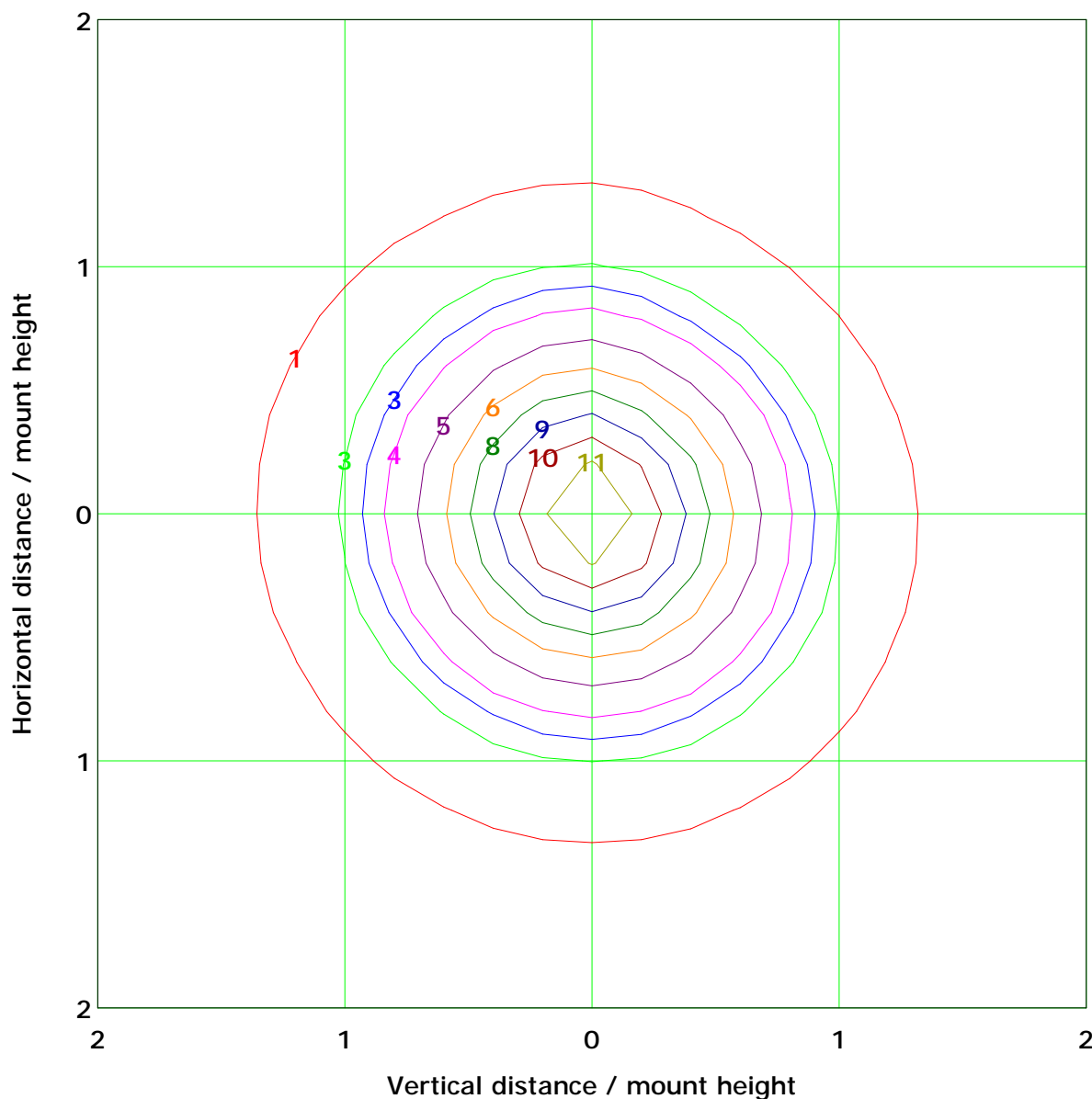
I<sub>max</sub> (100%): 317 cd

|                |                |
|----------------|----------------|
| ( 10%): 32 cd  | ( 20%): 63 cd  |
| ( 25%): 79 cd  | ( 30%): 95 cd  |
| ( 40%): 127 cd | ( 50%): 159 cd |
| ( 60%): 190 cd | ( 70%): 222 cd |
| ( 80%): 254 cd | ( 90%): 286 cd |

C Plane (°):0.0-360.0: 30.0  
Test Lab:  
Test Type: TYPE C  
Temperature: 25  
Operator: Jacky

Gamma Plane (°):0.0-180.0:1.0  
Test Device: GPM-1800B  
Distance: 9.028 m  
Humidity: 60%  
Inspector:

## IsoLux Plot



|   |                 |
|---|-----------------|
| Mounting Height: 5.0m    Max Lux(100%): 12.7 lx |                 |
| ( 10%): 1.3 lx                                  | ( 20%): 2.5 lx  |
| ( 25%): 3.2 lx                                  | ( 30%): 3.8 lx  |
| ( 40%): 5.1 lx                                  | ( 50%): 6.3 lx  |
| ( 60%): 7.6 lx                                  | ( 70%): 8.9 lx  |
| ( 80%): 10.2 lx                                 | ( 90%): 11.4 lx |

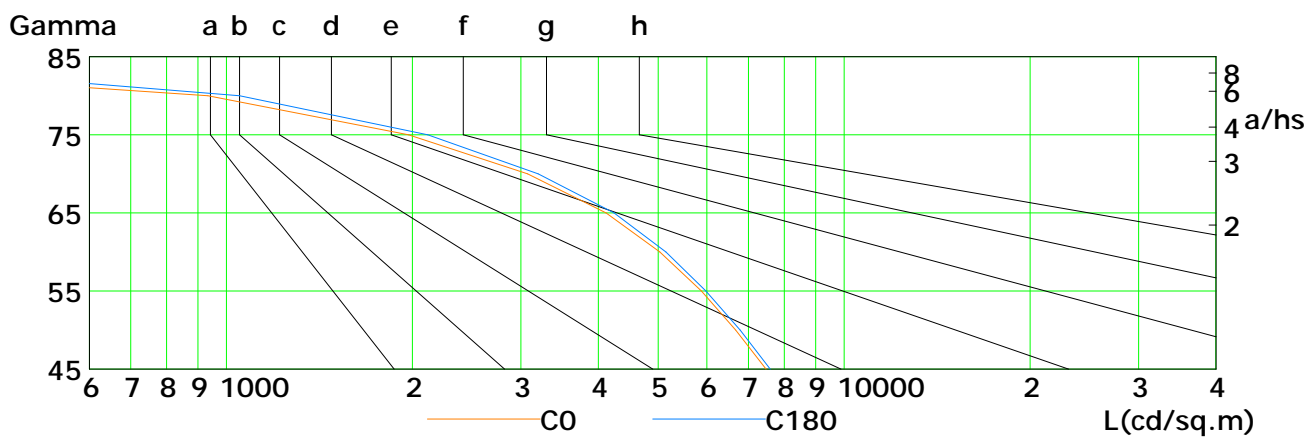
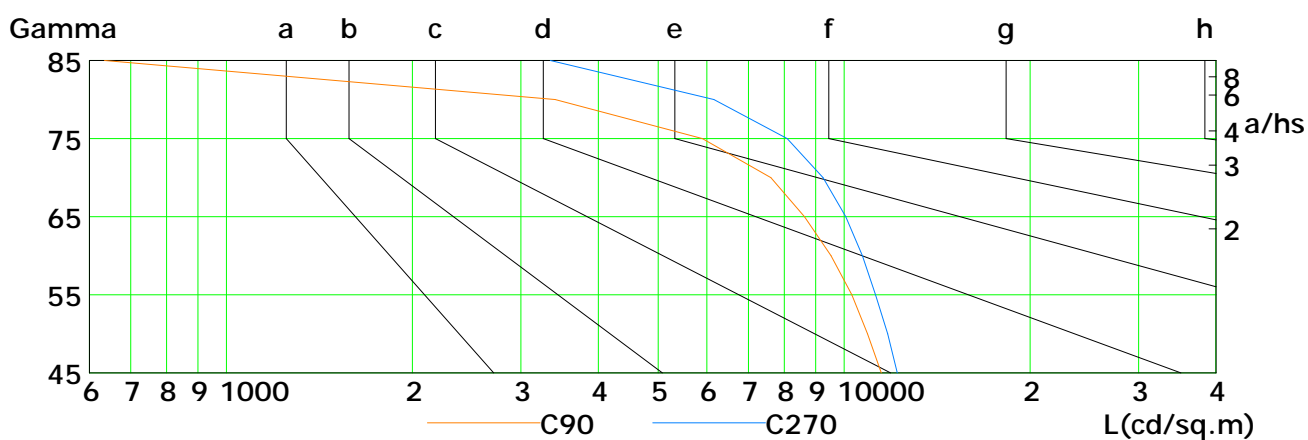
C Plane (°):0.0-360.0: 30.0  
Test Lab:  
Test Type: TYPE C  
Temperature: 25  
Operator: Jacky

Gamma Plane (°):0.0-180.0:1.0  
Test Device: GPM-1800B  
Distance: 9.028 m  
Humidity: 60%  
Inspector:

## Lum Limit Curve

| Dazzle | Quality | Illuminance (lx) |      |      |       |       |       |       |       |
|--------|---------|------------------|------|------|-------|-------|-------|-------|-------|
| 1.15   | A       | 2000             | 1000 | 500  | <=300 |       |       |       |       |
| 1.50   | B       |                  | 2000 | 1000 | 500   | <=300 |       |       |       |
| 1.85   | C       |                  |      | 2000 | 1000  | 500   | <=300 |       |       |
| 2.20   | D       |                  |      |      | 2000  | 1000  | 500   | <=300 |       |
| 2.55   | E       |                  |      |      |       | 2000  | 1000  | 500   | <=300 |

a b c d e f g h

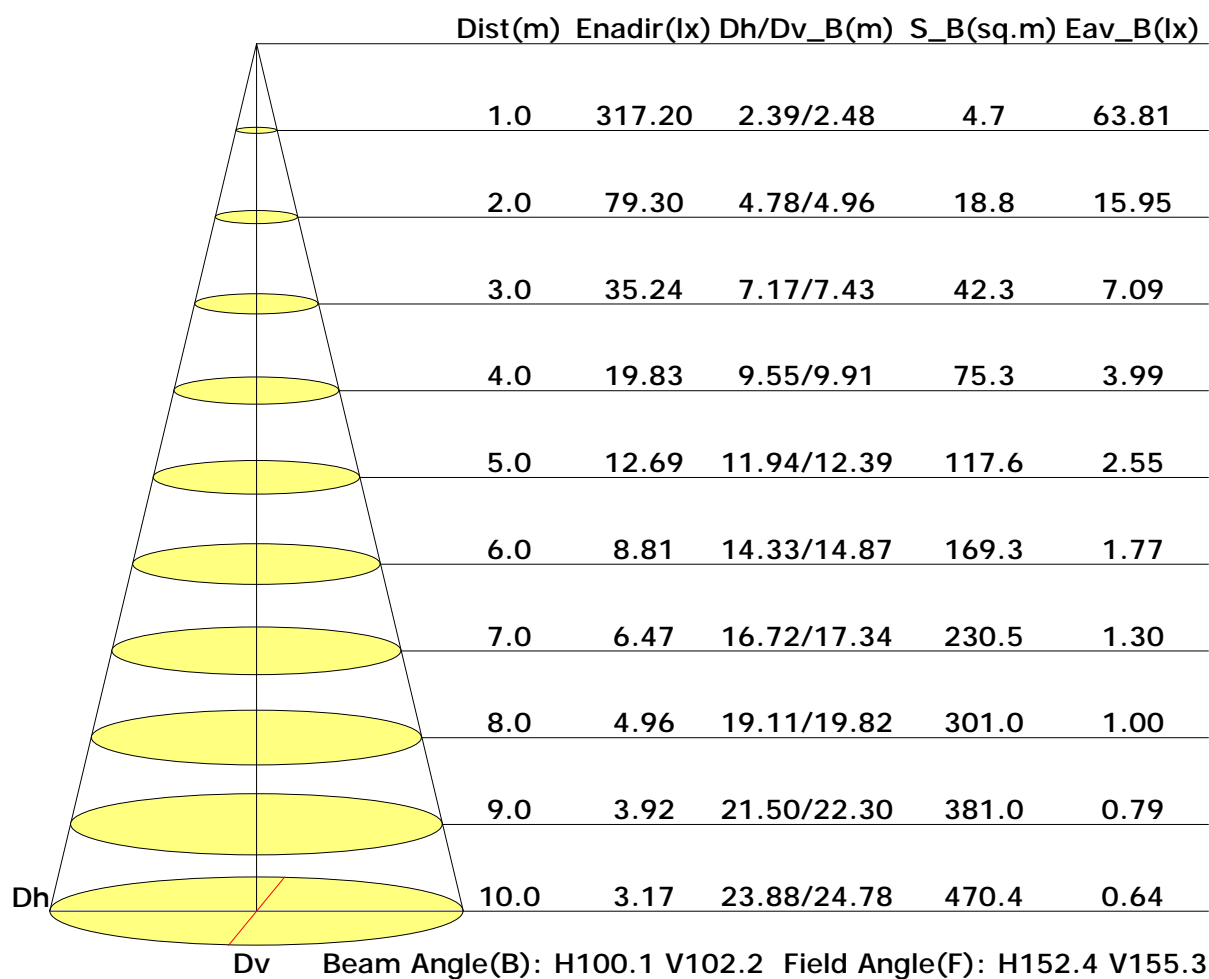


| L(cd/sq.m) | G45   | G50   | G55   | G60   | G65   | G70  | G75  | G80  | G85  |
|------------|-------|-------|-------|-------|-------|------|------|------|------|
| C0         | 7478  | 6674  | 5874  | 5032  | 4117  | 3076 | 1972 | 934  | 109  |
| C90        | 11490 | 10915 | 10298 | 9531  | 8628  | 7612 | 5897 | 3408 | 635  |
| C180       | 7595  | 6789  | 5976  | 5148  | 4242  | 3200 | 2118 | 1050 | 177  |
| C270       | 12191 | 11761 | 11243 | 10708 | 10068 | 9250 | 8094 | 6154 | 3346 |

C Plane (°):0.0-360.0: 30.0  
Test Lab:  
Test Type: TYPE C  
Temperature: 25  
Operator: Jacky

Gamma Plane (°):0.0-180.0:1.0  
Test Device: GPM-1800B  
Distance: 9.028 m  
Humidity: 60%  
Inspector:

## Illuminance at a Distance

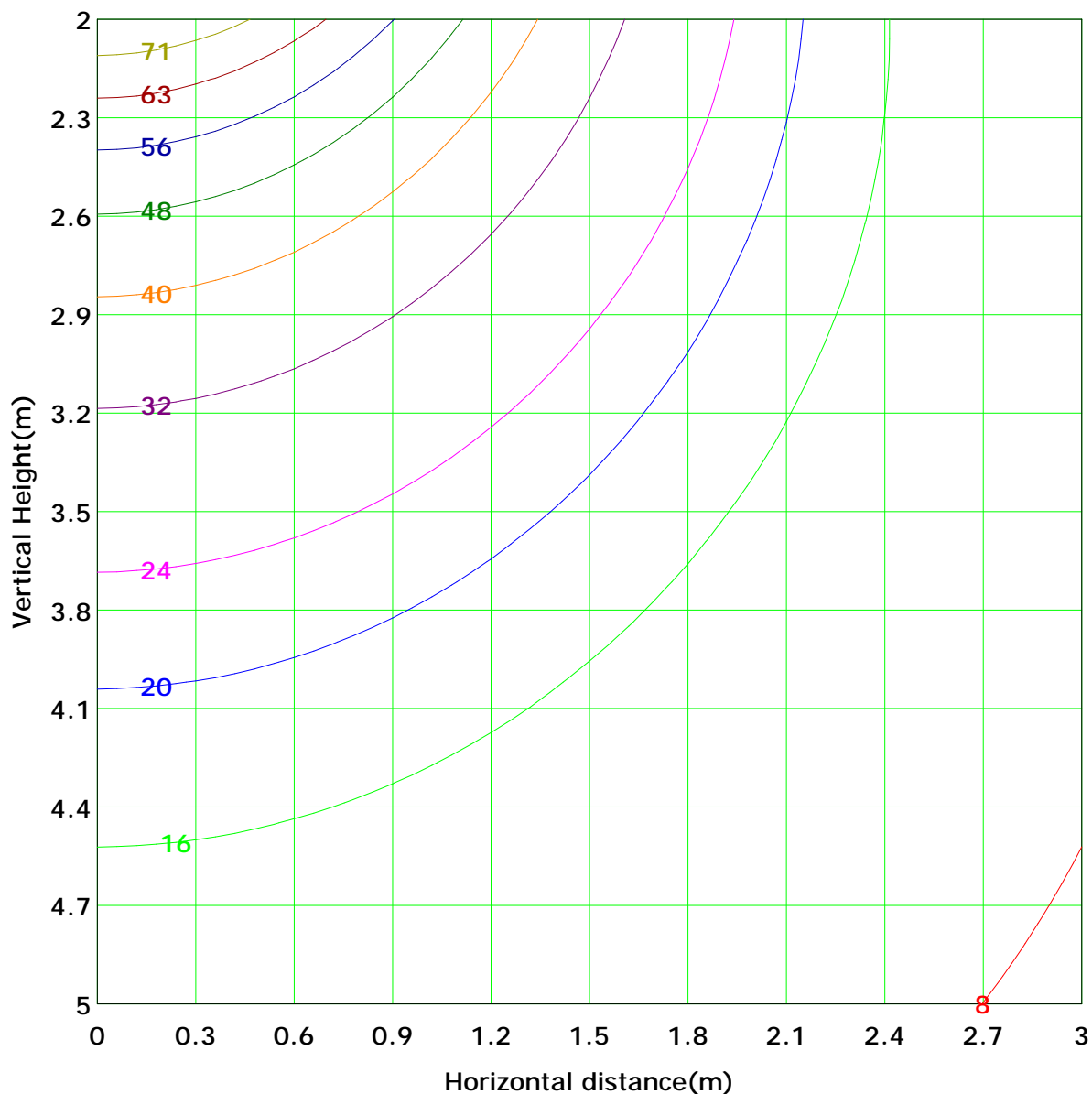


C Plane (°):0.0-360.0: 30.0  
Test Lab:  
Test Type: TYPE C  
Temperature: 25  
Operator: Jacky

Gamma Plane (°):0.0-180.0: 1.0  
Test Device: GPM-1800B  
Distance: 9.028 m  
Humidity: 60%  
Inspector:



## Vertical IsoLux Plot



|                 |                  |                  |
|-----------------|------------------|------------------|
| Lowest(m): 2.0m | Highest(m): 5.0m | Max Lux: 79.3 lx |
| ( 10%): 7.9 lx  | ( 20%): 15.9 lx  |                  |
| ( 25%): 19.8 lx | ( 30%): 23.8 lx  |                  |
| ( 40%): 31.7 lx | ( 50%): 39.7 lx  |                  |
| ( 60%): 47.6 lx | ( 70%): 55.5 lx  |                  |
| ( 80%): 63.4 lx | ( 90%): 71.4 lx  |                  |

C Plane (°):0.0-360.0: 30.0  
Test Lab:  
Test Type: TYPE C  
Temperature: 25  
Operator: Jacky

Gamma Plane (°):0.0-180.0:1.0  
Test Device: GPM-1800B  
Distance: 9.028 m  
Humidity: 60%  
Inspector:

## Area Flux Table

Unit: lm

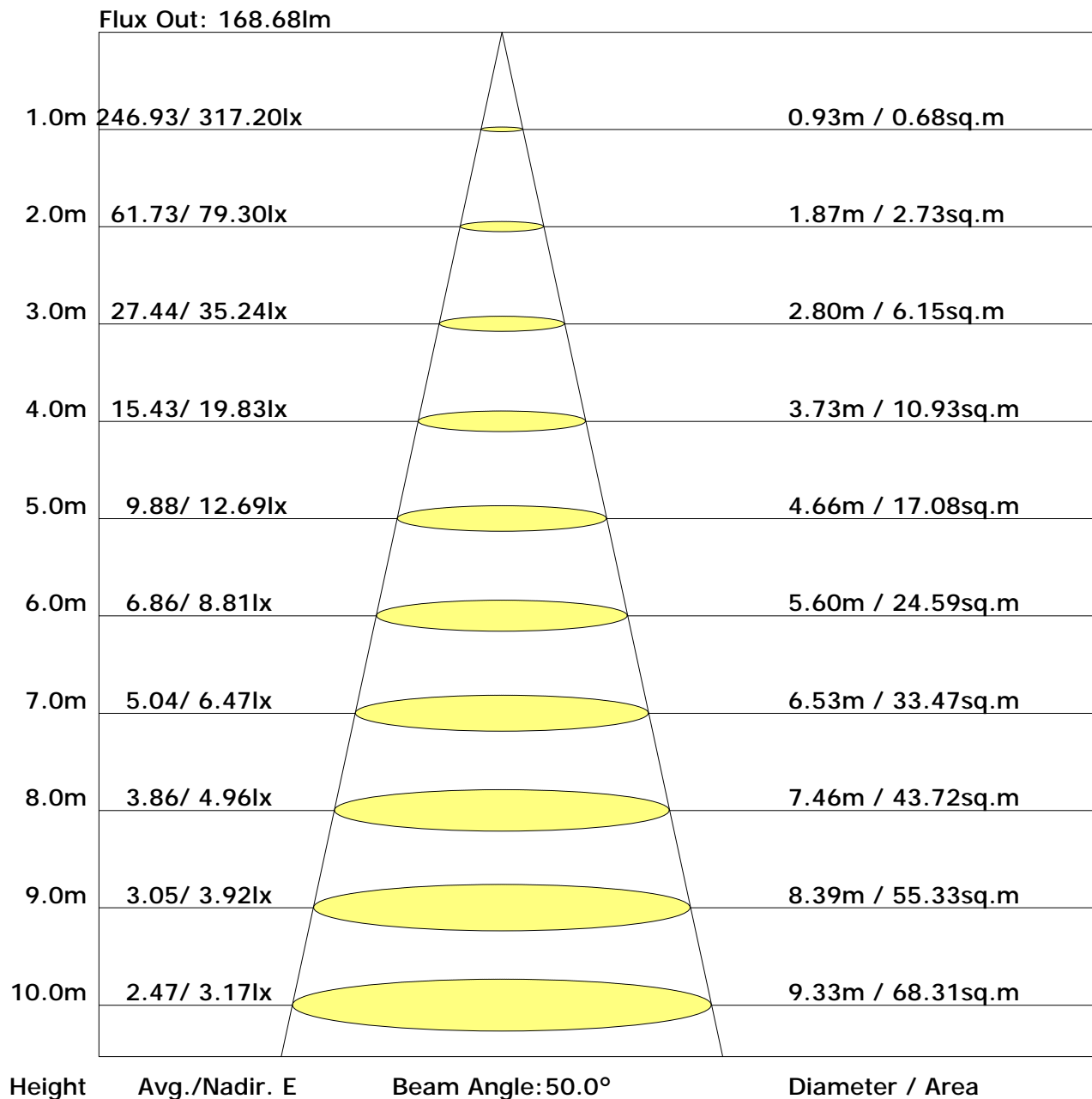
|         |         | Vertical plane   |      |      |      |      |      |      |      |      |      |      |      |      |      |      |     |     |     |     |          |         |     |
|---------|---------|------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|----------|---------|-----|
|         |         | -90              | -80  | -70  | -60  | -50  | -40  | -30  | -20  | -10  | 0    | 10   | 20   | 30   | 40   | 50   | 60  | 70  | 80  | 90  | Orbit, m |         |     |
| Flux(E) | Flux(T) | 0.0              | 0.0  | 0.0  | 0.1  | 0.1  | 0.2  | 0.3  | 0.3  | 0.3  | 0.3  | 0.3  | 0.3  | 0.3  | 0.2  | 0.1  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0      | 2.5     | 0.0 |
|         |         | 0.0              | 0.0  | 0.1  | 0.3  | 0.6  | 1.0  | 1.2  | 1.4  | 1.5  | 1.5  | 1.3  | 1.1  | 0.8  | 0.5  | 0.3  | 0.1 | 0.0 | 0.0 | 0.0 | 11.8     | 8.9     |     |
|         |         | 0.0              | 0.1  | 0.3  | 0.8  | 1.3  | 1.9  | 2.4  | 2.7  | 2.9  | 2.9  | 2.6  | 2.2  | 1.7  | 1.2  | 0.7  | 0.3 | 0.1 | 0.0 | 0.0 | 24.0     | 23.2    |     |
|         |         | 0.0              | 0.1  | 0.5  | 1.2  | 2.1  | 3.1  | 4.0  | 4.8  | 5.3  | 5.3  | 5.1  | 4.4  | 3.5  | 2.4  | 1.5  | 0.7 | 0.2 | 0.0 | 0.0 | 36.2     | 35.7    |     |
|         |         | 0.0              | 0.2  | 0.7  | 1.6  | 2.6  | 3.6  | 4.6  | 5.3  | 5.7  | 5.6  | 5.2  | 4.4  | 3.5  | 2.5  | 1.5  | 0.7 | 0.2 | 0.0 | 0.0 | 47.8     | 47.5    |     |
|         |         | 0.0              | 0.2  | 0.9  | 1.9  | 3.1  | 4.4  | 5.6  | 6.5  | 6.9  | 6.9  | 6.3  | 5.4  | 4.2  | 3.0  | 1.8  | 0.8 | 0.2 | 0.0 | 0.0 | 58.3     | 58.1    |     |
|         |         | 0.0              | 0.3  | 1.0  | 2.1  | 3.5  | 5.0  | 6.4  | 7.4  | 8.0  | 8.0  | 7.3  | 6.2  | 4.9  | 3.4  | 2.1  | 1.0 | 0.3 | 0.0 | 0.0 | 67.1     | 66.9    |     |
|         |         | 0.0              | 0.3  | 1.1  | 2.3  | 3.8  | 5.5  | 7.0  | 8.2  | 8.8  | 8.8  | 8.1  | 6.9  | 5.3  | 3.7  | 2.3  | 1.1 | 0.3 | 0.0 | 0.0 | 73.6     | 73.4    |     |
|         |         | 0.0              | 0.3  | 1.2  | 2.4  | 4.0  | 5.7  | 7.4  | 8.7  | 9.3  | 9.3  | 8.5  | 7.2  | 5.6  | 3.9  | 2.3  | 1.1 | 0.3 | 0.0 | 0.0 | 77.2     | 77.0    |     |
|         |         | 0.0              | 0.3  | 1.1  | 2.3  | 3.9  | 5.6  | 7.2  | 8.4  | 9.2  | 9.3  | 8.6  | 7.3  | 5.6  | 3.9  | 2.3  | 1.1 | 0.3 | 0.0 | 0.0 | 76.4     | 76.2    |     |
|         |         | 0.0              | 0.3  | 1.0  | 2.2  | 3.6  | 5.1  | 6.5  | 7.8  | 8.6  | 8.7  | 8.1  | 6.9  | 5.4  | 3.7  | 2.3  | 1.1 | 0.3 | 0.0 | 0.0 | 71.7     | 71.5    |     |
|         |         | 0.0              | 0.2  | 0.9  | 1.9  | 3.2  | 4.5  | 5.9  | 7.0  | 7.7  | 7.8  | 7.3  | 6.3  | 4.9  | 3.4  | 2.1  | 1.0 | 0.3 | 0.0 | 0.0 | 64.4     | 64.2    |     |
|         |         | 0.0              | 0.2  | 0.7  | 1.6  | 2.6  | 3.8  | 5.0  | 6.0  | 6.6  | 6.7  | 6.3  | 5.4  | 4.3  | 3.0  | 1.8  | 0.8 | 0.2 | 0.0 | 0.0 | 55.0     | 54.8    |     |
|         |         | 0.0              | 0.1  | 0.5  | 1.2  | 2.1  | 3.1  | 4.0  | 4.8  | 5.3  | 5.3  | 5.1  | 4.4  | 3.5  | 2.4  | 1.5  | 0.7 | 0.2 | 0.0 | 0.0 | 44.1     | 43.7    |     |
|         |         | 0.0              | 0.1  | 0.3  | 0.8  | 1.4  | 2.2  | 2.9  | 3.5  | 3.9  | 4.0  | 3.8  | 3.3  | 2.6  | 1.8  | 1.1  | 0.5 | 0.1 | 0.0 | 0.0 | 32.2     | 31.6    |     |
|         |         | 0.0              | 0.0  | 0.1  | 0.4  | 0.8  | 1.3  | 1.8  | 2.2  | 2.5  | 2.5  | 2.4  | 2.1  | 1.7  | 1.1  | 0.7  | 0.3 | 0.1 | 0.0 | 0.0 | 19.8     | 18.7    |     |
|         |         | 0.0              | 0.0  | 0.0  | 0.1  | 0.2  | 0.4  | 0.7  | 0.9  | 1.1  | 1.1  | 1.1  | 1.0  | 0.8  | 0.5  | 0.3  | 0.1 | 0.0 | 0.0 | 0.0 | 8.2      | 4.6     |     |
|         |         | 0.0              | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.1  | 0.1  | 0.2  | 0.2  | 0.1  | 0.1  | 0.0  | 0.0 | 0.0 | 0.0 | 0.0 | 1.0      | 0.0     |     |
| Flux(T) | 0.2     | 2.9              | 10.8 | 23.1 | 38.8 | 56.0 | 72.5 | 85.4 | 92.6 | 93.0 | 86.4 | 73.7 | 57.4 | 40.1 | 24.1 | 11.1 | 2.9 | 0.2 | 771 |     |          |         |     |
| Flux(E) | 0.0     | 1.7              | 9.8  | 22.2 | 37.9 | 55.1 | 71.6 | 84.6 | 91.8 | 92.2 | 85.5 | 72.9 | 56.6 | 39.3 | 23.2 | 10.1 | 1.6 | 0.0 |     |     |          | 756     |     |
|         |         | -90              | -80  | -70  | -60  | -50  | -40  | -30  | -20  | -10  | 0    | 10   | 20   | 30   | 40   | 50   | 60  | 70  | 80  | 90  | Flux(T)  | Flux(E) |     |
|         |         | Horizontal plane |      |      |      |      |      |      |      |      |      |      |      |      |      |      |     |     |     |     |          |         |     |

C Plane (°): 0.0-360.0: 30.0  
Test Lab:  
Test Type: TYPE C  
Temperature: 25  
Operator: Jacky

Gamma Plane (°): 0.0-180.0: 1.0  
Test Device: GPM-1800B  
Distance: 9.028 m  
Humidity: 60%  
Inspector:



## The Average Illuminance Effective Figure



C Plane (°):0.0-360.0: 30.0  
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Test Type: TYPE C  
Temperature: 25  
Operator: Jacky

Gamma Plane (°):0.0-180.0: 1.0  
Test Device: GPM-1800B  
Distance: 9.028 m  
Humidity: 60%  
Inspector:

## UGR Table

|                  |                  |      |      |      |      |                |      |      |      |      |
|------------------|------------------|------|------|------|------|----------------|------|------|------|------|
| Reflectance:     |                  |      |      |      |      |                |      |      |      |      |
| Ceiling (cavity) | 0.7              | 0.7  | 0.5  | 0.5  | 0.3  | 0.7            | 0.7  | 0.5  | 0.5  | 0.3  |
| Wall             | 0.5              | 0.3  | 0.5  | 0.3  | 0.3  | 0.5            | 0.3  | 0.5  | 0.3  | 0.3  |
| Reference plane  | 0.2              | 0.2  | 0.2  | 0.2  | 0.2  | 0.2            | 0.2  | 0.2  | 0.2  | 0.2  |
| Room dimensions  | Viewed crosswise |      |      |      |      | Viewed endwise |      |      |      |      |
| X=2H Y=2H        | 20.1             | 21.7 | 20.5 | 22.0 | 22.4 | 18.6           | 20.1 | 18.9 | 20.5 | 20.8 |
| 3H               | 21.6             | 23.0 | 22.0 | 23.4 | 23.8 | 19.7           | 21.1 | 20.1 | 21.5 | 21.9 |
| 4H               | 22.1             | 23.4 | 22.5 | 23.7 | 24.2 | 20.0           | 21.3 | 20.4 | 21.7 | 22.1 |
| 6H               | 22.2             | 23.4 | 22.7 | 23.8 | 24.3 | 20.1           | 21.3 | 20.5 | 21.7 | 22.1 |
| 8H               | 22.2             | 23.4 | 22.7 | 23.8 | 24.3 | 20.1           | 21.2 | 20.5 | 21.7 | 22.1 |
| 12H              | 22.2             | 23.3 | 22.7 | 23.7 | 24.2 | 20.1           | 21.2 | 20.5 | 21.6 | 22.0 |
| X=4H Y=2H        | 20.5             | 21.8 | 20.9 | 22.2 | 22.6 | 19.1           | 20.4 | 19.5 | 20.8 | 21.2 |
| 3H               | 22.2             | 23.3 | 22.6 | 23.7 | 24.1 | 20.4           | 21.5 | 20.8 | 21.9 | 22.4 |
| 4H               | 22.7             | 23.7 | 23.1 | 24.1 | 24.6 | 20.8           | 21.7 | 21.2 | 22.2 | 22.7 |
| 6H               | 22.9             | 23.8 | 23.4 | 24.2 | 24.7 | 20.9           | 21.8 | 21.4 | 22.2 | 22.7 |
| 8H               | 22.9             | 23.7 | 23.4 | 24.2 | 24.7 | 20.9           | 21.7 | 21.4 | 22.2 | 22.7 |
| 12H              | 22.9             | 23.6 | 23.4 | 24.1 | 24.6 | 20.9           | 21.6 | 21.4 | 22.1 | 22.6 |
| X=8H Y=4H        | 22.8             | 23.6 | 23.2 | 24.0 | 24.5 | 20.9           | 21.7 | 21.4 | 22.2 | 22.7 |
| 6H               | 23.0             | 23.7 | 23.6 | 24.2 | 24.7 | 21.0           | 21.7 | 21.6 | 22.2 | 22.7 |
| 8H               | 23.1             | 23.7 | 23.6 | 24.2 | 24.7 | 21.1           | 21.6 | 21.6 | 22.2 | 22.7 |
| 12H              | 23.1             | 23.6 | 23.6 | 24.1 | 24.7 | 21.0           | 21.6 | 21.6 | 22.1 | 22.7 |
| X=12H Y=4H       | 22.8             | 23.5 | 23.3 | 24.0 | 24.5 | 20.9           | 21.6 | 21.4 | 22.1 | 22.6 |
| 6H               | 23.0             | 23.6 | 23.6 | 24.1 | 24.7 | 21.1           | 21.6 | 21.6 | 22.1 | 22.7 |
| 8H               | 23.1             | 23.6 | 23.6 | 24.1 | 24.7 | 21.1           | 21.6 | 21.6 | 22.1 | 22.7 |

Calculate in accordance with CIE 190:2010

 C Plane (°):0.0-360.0: 30.0  
 Test Lab:  
 Test Type: TYPE C  
 Temperature: 25  
 Operator: Jacky

 Gamma Plane (°):0.0-180.0: 1.0  
 Test Device: GPM-1800B  
 Distance: 9.028 m  
 Humidity: 60%  
 Inspector:

## Utilisation Factor Table(Floor cavity)

| Utilisation Factors UF(F)  |      |       | SHR NOM = 1.25 |      |      |      |      |      |      |      |      |
|--|------|-------|----------------|------|------|------|------|------|------|------|------|
| Room Reflectance   |      |       | Room Index(RI) |      |      |      |      |      |      |      |      |
| Ceiling  | Wall | Floor | 0.75           | 1.00 | 1.25 | 1.50 | 2.00 | 2.50 | 3.00 | 4.00 | 5.00 |
| 0.70   | 0.50 | 0.20  | 0.59           | 0.69 | 0.76 | 0.82 | 0.89 | 0.94 | 0.97 | 1.01 | 1.04 |
|  | 0.30 |       | 0.51           | 0.62 | 0.69 | 0.75 | 0.83 | 0.88 | 0.92 | 0.97 | 1.01 |
|  | 0.20 |       | 0.46           | 0.56 | 0.64 | 0.70 | 0.78 | 0.84 | 0.88 | 0.94 | 0.98 |
| 0.50   | 0.50 | 0.20  | 0.57           | 0.67 | 0.74 | 0.79 | 0.85 | 0.90 | 0.93 | 0.97 | 1.00 |
|  | 0.30 |       | 0.50           | 0.61 | 0.68 | 0.73 | 0.81 | 0.86 | 0.89 | 0.94 | 0.97 |
|  | 0.20 |       | 0.45           | 0.56 | 0.63 | 0.69 | 0.76 | 0.82 | 0.86 | 0.91 | 0.95 |
| 0.30   | 0.50 | 0.20  | 0.56           | 0.65 | 0.71 | 0.76 | 0.82 | 0.87 | 0.89 | 0.93 | 0.96 |
|  | 0.30 |       | 0.50           | 0.59 | 0.66 | 0.71 | 0.78 | 0.83 | 0.86 | 0.91 | 0.93 |
|  | 0.20 |       | 0.45           | 0.55 | 0.62 | 0.67 | 0.75 | 0.80 | 0.84 | 0.88 | 0.91 |
| 0.00   | 0.00 | 0.00  | 0.43           | 0.52 | 0.59 | 0.64 | 0.71 | 0.76 | 0.79 | 0.84 | 0.86 |
| Rating: 12W Photometrically tested without ceiling board.<br>Multiply UF values by service correction factors<br>Calculate in accordance with CIBSE Technical Memorandum NO.5 1980 |      |       |                |      |      |      |      |      |      |      |      |

## Utilisation Factor Table(Wall)

| Utilisation Factors UF(W)  |      |       | SHR NOM = 1.25 |      |      |      |      |      |      |      |      |  |
|--|------|-------|----------------|------|------|------|------|------|------|------|------|--|
| Room Reflectance   |      |       | Room Index(RI) |      |      |      |      |      |      |      |      |  |
| Ceiling  | Wall | Floor | 0.75           | 1.00 | 1.25 | 1.50 | 2.00 | 2.50 | 3.00 | 4.00 | 5.00 |  |
| 0.70   | 0.50 | 0.20  | 0.96           | 0.78 | 0.66 | 0.58 | 0.46 | 0.38 | 0.32 | 0.25 | 0.20 |  |
|  | 0.30 |       | 0.80           | 0.67 | 0.58 | 0.51 | 0.41 | 0.34 | 0.30 | 0.23 | 0.19 |  |
|  | 0.20 |       | 0.68           | 0.59 | 0.51 | 0.46 | 0.38 | 0.32 | 0.28 | 0.22 | 0.18 |  |
| 0.50   | 0.50 | 0.20  | 0.92           | 0.75 | 0.63 | 0.55 | 0.43 | 0.39 | 0.30 | 0.23 | 0.19 |  |
|  | 0.30 |       | 0.78           | 0.65 | 0.56 | 0.49 | 0.40 | 0.33 | 0.28 | 0.22 | 0.18 |  |
|  | 0.20 |       | 0.67           | 0.57 | 0.50 | 0.44 | 0.36 | 0.31 | 0.27 | 0.21 | 0.17 |  |
| 0.30   | 0.50 | 0.20  | 0.89           | 0.72 | 0.61 | 0.52 | 0.41 | 0.34 | 0.29 | 0.22 | 0.18 |  |
|  | 0.30 |       | 0.76           | 0.63 | 0.54 | 0.47 | 0.38 | 0.32 | 0.27 | 0.21 | 0.17 |  |
|  | 0.20 |       | 0.67           | 0.56 | 0.49 | 0.43 | 0.35 | 0.30 | 0.26 | 0.20 | 0.17 |  |
| 0.00   | 0.00 | 0.00  | 0.56           | 0.46 | 0.40 | 0.35 | 0.28 | 0.23 | 0.19 | 0.15 | 0.12 |  |
| Rating: 12W Photometrically tested without ceiling board.<br>Multiply UF values by service correction factors<br>Calculate in accordance with CIBSE Technical Memorandum NO.5 1980 |      |       |                |      |      |      |      |      |      |      |      |  |

## Utilisation Factor Table(Ceiling cavity)

| Utilisation Factors UF(C)  |      |       | SHR NOM = 1.25 |      |      |      |      |      |      |      |      |  |
|--|------|-------|----------------|------|------|------|------|------|------|------|------|--|
| Room Reflectance   |      |       | Room Index(RI) |      |      |      |      |      |      |      |      |  |
| Ceiling  | Wall | Floor | 0.75           | 1.00 | 1.25 | 1.50 | 2.00 | 2.50 | 3.00 | 4.00 | 5.00 |  |
| 0.70   | 0.50 | 0.20  | 0.17           | 0.19 | 0.19 | 0.20 | 0.21 | 0.22 | 0.22 | 0.23 | 0.23 |  |
|  | 0.30 |       | 0.11           | 0.12 | 0.14 | 0.15 | 0.16 | 0.18 | 0.18 | 0.20 | 0.21 |  |
|  | 0.20 |       | 0.06           | 0.08 | 0.09 | 0.11 | 0.13 | 0.14 | 0.15 | 0.17 | 0.18 |  |
| 0.50   | 0.50 | 0.20  | 0.17           | 0.18 | 0.19 | 0.19 | 0.20 | 0.21 | 0.21 | 0.22 | 0.22 |  |
|  | 0.30 |       | 0.11           | 0.12 | 0.13 | 0.14 | 0.16 | 0.17 | 0.18 | 0.19 | 0.20 |  |
|  | 0.20 |       | 0.06           | 0.08 | 0.09 | 0.10 | 0.12 | 0.14 | 0.15 | 0.17 | 0.18 |  |
| 0.30   | 0.50 | 0.20  | 0.16           | 0.17 | 0.18 | 0.19 | 0.19 | 0.20 | 0.20 | 0.21 | 0.21 |  |
|  | 0.30 |       | 0.10           | 0.12 | 0.13 | 0.14 | 0.15 | 0.17 | 0.17 | 0.18 | 0.19 |  |
|  | 0.20 |       | 0.06           | 0.08 | 0.09 | 0.10 | 0.12 | 0.14 | 0.15 | 0.16 | 0.17 |  |
| 0.00   | 0.00 | 0.00  | 0.01           | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 |  |
| Rating: 12W Photometrically tested without ceiling board.<br>Multiply UF values by service correction factors<br>Calculate in accordance with CIBSE Technical Memorandum NO.5 1980 |      |       |                |      |      |      |      |      |      |      |      |  |

## Zonal Lumen

| Gamma<br>[°] | I <sub>mean</sub><br>[cd] | Zonal Flux<br>[lm] | Sum Zonal Flux<br>[lm] | Rel Zonal Flux<br>[%] | Sum Rel Zonal Flux<br>[%] |
|--------------|---------------------------|--------------------|------------------------|-----------------------|---------------------------|
| 0.0-1.0      | 311.0                     | 0.3                | 0.3                    | 0.04                  | 0.04                      |
| 1.0-2.0      | 310.8                     | 0.9                | 1.2                    | 0.11                  | 0.15                      |
| 2.0-3.0      | 310.5                     | 1.5                | 2.7                    | 0.19                  | 0.34                      |
| 3.0-4.0      | 310.0                     | 2.1                | 4.8                    | 0.27                  | 0.61                      |
| 4.0-5.0      | 309.3                     | 2.7                | 7.4                    | 0.34                  | 0.95                      |
| 5.0-6.0      | 308.5                     | 3.2                | 10.7                   | 0.41                  | 1.36                      |
| 6.0-7.0      | 307.4                     | 3.8                | 14.5                   | 0.49                  | 1.85                      |
| 7.0-8.0      | 306.2                     | 4.4                | 18.9                   | 0.56                  | 2.41                      |
| 8.0-9.0      | 304.9                     | 4.9                | 23.8                   | 0.63                  | 3.04                      |
| 9.0-10.0     | 303.4                     | 5.5                | 29.3                   | 0.70                  | 3.74                      |
| 10.0-11.0    | 301.8                     | 6.0                | 35.3                   | 0.77                  | 4.52                      |
| 11.0-12.0    | 300.0                     | 6.6                | 41.9                   | 0.84                  | 5.35                      |
| 12.0-13.0    | 298.2                     | 7.1                | 49.0                   | 0.90                  | 6.26                      |
| 13.0-14.0    | 296.1                     | 7.6                | 56.5                   | 0.97                  | 7.23                      |
| 14.0-15.0    | 293.9                     | 8.1                | 64.6                   | 1.03                  | 8.26                      |
| 15.0-16.0    | 291.5                     | 8.5                | 73.1                   | 1.09                  | 9.35                      |
| 16.0-17.0    | 289.1                     | 9.0                | 82.2                   | 1.15                  | 10.50                     |
| 17.0-18.0    | 286.5                     | 9.4                | 91.6                   | 1.21                  | 11.71                     |
| 18.0-19.0    | 283.8                     | 9.9                | 101.5                  | 1.26                  | 12.97                     |
| 19.0-20.0    | 281.0                     | 10.3               | 111.8                  | 1.32                  | 14.29                     |
| 20.0-21.0    | 278.0                     | 10.7               | 122.4                  | 1.37                  | 15.66                     |
| 21.0-22.0    | 274.8                     | 11.0               | 133.5                  | 1.41                  | 17.07                     |
| 22.0-23.0    | 271.7                     | 11.4               | 144.9                  | 1.46                  | 18.53                     |
| 23.0-24.0    | 268.5                     | 11.7               | 156.6                  | 1.50                  | 20.03                     |
| 24.0-25.0    | 265.1                     | 12.1               | 168.7                  | 1.54                  | 21.57                     |
| 25.0-26.0    | 261.6                     | 12.4               | 181.0                  | 1.58                  | 23.15                     |
| 26.0-27.0    | 258.0                     | 12.6               | 193.7                  | 1.61                  | 24.76                     |
| 27.0-28.0    | 254.3                     | 12.9               | 206.5                  | 1.65                  | 26.41                     |
| 28.0-29.0    | 250.6                     | 13.1               | 219.6                  | 1.68                  | 28.08                     |
| 29.0-30.0    | 246.8                     | 13.3               | 233.0                  | 1.70                  | 29.79                     |
| 30.0-31.0    | 242.9                     | 13.5               | 246.5                  | 1.73                  | 31.52                     |
| 31.0-32.0    | 238.9                     | 13.7               | 260.2                  | 1.75                  | 33.27                     |
| 32.0-33.0    | 235.0                     | 13.8               | 274.0                  | 1.77                  | 35.04                     |
| 33.0-34.0    | 231.0                     | 14.0               | 288.0                  | 1.79                  | 36.82                     |
| 34.0-35.0    | 226.9                     | 14.1               | 302.1                  | 1.80                  | 38.63                     |
| 35.0-36.0    | 222.8                     | 14.2               | 316.3                  | 1.81                  | 40.44                     |

C Plane (°): 0.0-360.0: 30.0  
 Test Lab:  
 Test Type: TYPE C  
 Temperature: 25  
 Operator: Jacky

Gamma Plane (°): 0.0-180.0: 1.0  
 Test Device: GPM-1800B  
 Distance: 9.028 m  
 Humidity: 60%  
 Inspector:



## Zonal Lumen (Continue 1)

| Gamma<br>[°] | I <sub>mean</sub><br>[cd] | Zonal Flux<br>[lm] | Sum Zonal Flux<br>[lm] | Rel Zonal Flux<br>[%] | Sum Rel Zonal Flux<br>[%] |
|--------------|---------------------------|--------------------|------------------------|-----------------------|---------------------------|
| 36.0-37.0    | 218.6                     | 14.3               | 330.5                  | 1.82                  | 42.26                     |
| 37.0-38.0    | 214.4                     | 14.3               | 344.8                  | 1.83                  | 44.09                     |
| 38.0-39.0    | 210.1                     | 14.3               | 359.2                  | 1.83                  | 45.93                     |
| 39.0-40.0    | 205.8                     | 14.4               | 373.5                  | 1.84                  | 47.76                     |
| 40.0-41.0    | 201.4                     | 14.3               | 387.9                  | 1.83                  | 49.60                     |
| 41.0-42.0    | 197.0                     | 14.3               | 402.2                  | 1.83                  | 51.43                     |
| 42.0-43.0    | 192.6                     | 14.3               | 416.5                  | 1.82                  | 53.25                     |
| 43.0-44.0    | 188.2                     | 14.2               | 430.7                  | 1.82                  | 55.07                     |
| 44.0-45.0    | 183.7                     | 14.1               | 444.8                  | 1.81                  | 56.87                     |
| 45.0-46.0    | 179.2                     | 14.0               | 458.8                  | 1.79                  | 58.67                     |
| 46.0-47.0    | 174.6                     | 13.9               | 472.7                  | 1.78                  | 60.44                     |
| 47.0-48.0    | 170.0                     | 13.7               | 486.5                  | 1.76                  | 62.20                     |
| 48.0-49.0    | 165.5                     | 13.6               | 500.0                  | 1.74                  | 63.94                     |
| 49.0-50.0    | 160.9                     | 13.4               | 513.5                  | 1.72                  | 65.65                     |
| 50.0-51.0    | 156.4                     | 13.2               | 526.7                  | 1.69                  | 67.34                     |
| 51.0-52.0    | 151.8                     | 13.0               | 539.7                  | 1.67                  | 69.01                     |
| 52.0-53.0    | 147.1                     | 12.8               | 552.5                  | 1.64                  | 70.65                     |
| 53.0-54.0    | 142.4                     | 12.6               | 565.1                  | 1.61                  | 72.25                     |
| 54.0-55.0    | 137.8                     | 12.3               | 577.4                  | 1.57                  | 73.82                     |
| 55.0-56.0    | 133.1                     | 12.0               | 589.4                  | 1.54                  | 75.36                     |
| 56.0-57.0    | 128.4                     | 11.7               | 601.2                  | 1.50                  | 76.86                     |
| 57.0-58.0    | 123.8                     | 11.4               | 612.6                  | 1.46                  | 78.33                     |
| 58.0-59.0    | 119.1                     | 11.1               | 623.7                  | 1.42                  | 79.75                     |
| 59.0-60.0    | 114.3                     | 10.8               | 634.5                  | 1.38                  | 81.13                     |
| 60.0-61.0    | 109.6                     | 10.5               | 645.0                  | 1.34                  | 82.47                     |
| 61.0-62.0    | 104.8                     | 10.1               | 655.1                  | 1.29                  | 83.76                     |
| 62.0-63.0    | 100.0                     | 9.7                | 664.8                  | 1.24                  | 85.00                     |
| 63.0-64.0    | 95.1                      | 9.3                | 674.2                  | 1.19                  | 86.20                     |
| 64.0-65.0    | 90.3                      | 8.9                | 683.1                  | 1.14                  | 87.34                     |
| 65.0-66.0    | 85.4                      | 8.5                | 691.6                  | 1.09                  | 88.43                     |
| 66.0-67.0    | 80.6                      | 8.1                | 699.7                  | 1.04                  | 89.47                     |
| 67.0-68.0    | 75.7                      | 7.7                | 707.4                  | 0.98                  | 90.45                     |
| 68.0-69.0    | 70.8                      | 7.2                | 714.6                  | 0.92                  | 91.37                     |
| 69.0-70.0    | 66.0                      | 6.8                | 721.4                  | 0.87                  | 92.24                     |
| 70.0-71.0    | 61.2                      | 6.3                | 727.7                  | 0.81                  | 93.05                     |
| 71.0-72.0    | 56.5                      | 5.9                | 733.6                  | 0.75                  | 93.80                     |

C Plane (°): 0.0-360.0: 30.0  
 Test Lab:  
 Test Type: TYPE C  
 Temperature: 25  
 Operator: Jacky

Gamma Plane (°): 0.0-180.0: 1.0  
 Test Device: GPM-1800B  
 Distance: 9.028 m  
 Humidity: 60%  
 Inspector:

## Zonal Lumen (Continue 2)

| Gamma<br>[°] | I <sub>mean</sub><br>[cd] | Zonal Flux<br>[lm] | Sum Zonal Flux<br>[lm] | Rel Zonal Flux<br>[%] | Sum Rel Zonal Flux<br>[%] |
|--------------|---------------------------|--------------------|------------------------|-----------------------|---------------------------|
| 72.0-73.0    | 51.7                      | 5.4                | 739.0                  | 0.69                  | 94.49                     |
| 73.0-74.0    | 47.0                      | 4.9                | 743.9                  | 0.63                  | 95.12                     |
| 74.0-75.0    | 42.4                      | 4.5                | 748.4                  | 0.57                  | 95.69                     |
| 75.0-76.0    | 37.9                      | 4.0                | 752.5                  | 0.51                  | 96.21                     |
| 76.0-77.0    | 33.4                      | 3.6                | 756.0                  | 0.46                  | 96.66                     |
| 77.0-78.0    | 29.1                      | 3.1                | 759.1                  | 0.40                  | 97.06                     |
| 78.0-79.0    | 25.1                      | 2.7                | 761.8                  | 0.34                  | 97.41                     |
| 79.0-80.0    | 21.1                      | 2.3                | 764.1                  | 0.29                  | 97.70                     |
| 80.0-81.0    | 17.4                      | 1.9                | 766.0                  | 0.24                  | 97.94                     |
| 81.0-82.0    | 14.0                      | 1.5                | 767.5                  | 0.19                  | 98.13                     |
| 82.0-83.0    | 10.8                      | 1.2                | 768.7                  | 0.15                  | 98.28                     |
| 83.0-84.0    | 8.0                       | 0.9                | 769.6                  | 0.11                  | 98.39                     |
| 84.0-85.0    | 5.7                       | 0.6                | 770.2                  | 0.08                  | 98.47                     |
| 85.0-86.0    | 3.8                       | 0.4                | 770.6                  | 0.05                  | 98.53                     |
| 86.0-87.0    | 2.3                       | 0.3                | 770.8                  | 0.03                  | 98.56                     |
| 87.0-88.0    | 1.4                       | 0.2                | 771.0                  | 0.02                  | 98.58                     |
| 88.0-89.0    | 1.0                       | 0.1                | 771.1                  | 0.01                  | 98.59                     |
| 89.0-90.0    | 0.8                       | 0.1                | 771.2                  | 0.01                  | 98.61                     |
| 90.0-91.0    | 0.8                       | 0.1                | 771.3                  | 0.01                  | 98.62                     |
| 91.0-92.0    | 0.8                       | 0.1                | 771.4                  | 0.01                  | 98.63                     |
| 92.0-93.0    | 0.8                       | 0.1                | 771.5                  | 0.01                  | 98.64                     |
| 93.0-94.0    | 0.9                       | 0.1                | 771.6                  | 0.01                  | 98.65                     |
| 94.0-95.0    | 0.9                       | 0.1                | 771.7                  | 0.01                  | 98.66                     |
| 95.0-96.0    | 0.9                       | 0.1                | 771.8                  | 0.01                  | 98.68                     |
| 96.0-97.0    | 0.9                       | 0.1                | 771.9                  | 0.01                  | 98.69                     |
| 97.0-98.0    | 0.9                       | 0.1                | 772.0                  | 0.01                  | 98.70                     |
| 98.0-99.0    | 1.0                       | 0.1                | 772.1                  | 0.01                  | 98.72                     |
| 99.0-100.0   | 1.0                       | 0.1                | 772.2                  | 0.01                  | 98.73                     |
| 100.0-101.0  | 1.0                       | 0.1                | 772.3                  | 0.01                  | 98.74                     |
| 101.0-102.0  | 1.1                       | 0.1                | 772.4                  | 0.01                  | 98.76                     |
| 102.0-103.0  | 1.1                       | 0.1                | 772.5                  | 0.01                  | 98.77                     |
| 103.0-104.0  | 1.1                       | 0.1                | 772.6                  | 0.02                  | 98.79                     |
| 104.0-105.0  | 1.2                       | 0.1                | 772.8                  | 0.02                  | 98.80                     |
| 105.0-106.0  | 1.2                       | 0.1                | 772.9                  | 0.02                  | 98.82                     |
| 106.0-107.0  | 1.2                       | 0.1                | 773.0                  | 0.02                  | 98.84                     |
| 107.0-108.0  | 1.2                       | 0.1                | 773.1                  | 0.02                  | 98.85                     |

C Plane (°):0.0-360.0: 30.0  
 Test Lab:  
 Test Type: TYPE C  
 Temperature: 25  
 Operator: Jacky

Gamma Plane (°):0.0-180.0: 1.0  
 Test Device: GPM-1800B  
 Distance: 9.028 m  
 Humidity: 60%  
 Inspector:

## Zonal Lumen (Continue 3)

| Gamma<br>[°] | I <sub>mean</sub><br>[cd] | Zonal Flux<br>[lm] | Sum Zonal Flux<br>[lm] | Rel Zonal Flux<br>[%] | Sum Rel Zonal Flux<br>[%] |
|--------------|---------------------------|--------------------|------------------------|-----------------------|---------------------------|
| 108.0-109.0  | 1.3                       | 0.1                | 773.3                  | 0.02                  | 98.87                     |
| 109.0-110.0  | 1.3                       | 0.1                | 773.4                  | 0.02                  | 98.89                     |
| 110.0-111.0  | 1.3                       | 0.1                | 773.5                  | 0.02                  | 98.90                     |
| 111.0-112.0  | 1.4                       | 0.1                | 773.7                  | 0.02                  | 98.92                     |
| 112.0-113.0  | 1.4                       | 0.1                | 773.8                  | 0.02                  | 98.94                     |
| 113.0-114.0  | 1.4                       | 0.1                | 774.0                  | 0.02                  | 98.96                     |
| 114.0-115.0  | 1.5                       | 0.1                | 774.1                  | 0.02                  | 98.98                     |
| 115.0-116.0  | 1.5                       | 0.1                | 774.3                  | 0.02                  | 99.00                     |
| 116.0-117.0  | 1.5                       | 0.1                | 774.4                  | 0.02                  | 99.02                     |
| 117.0-118.0  | 1.6                       | 0.2                | 774.6                  | 0.02                  | 99.04                     |
| 118.0-119.0  | 1.6                       | 0.2                | 774.7                  | 0.02                  | 99.05                     |
| 119.0-120.0  | 1.6                       | 0.2                | 774.9                  | 0.02                  | 99.07                     |
| 120.0-121.0  | 1.7                       | 0.2                | 775.0                  | 0.02                  | 99.10                     |
| 121.0-122.0  | 1.7                       | 0.2                | 775.2                  | 0.02                  | 99.12                     |
| 122.0-123.0  | 1.7                       | 0.2                | 775.3                  | 0.02                  | 99.14                     |
| 123.0-124.0  | 1.8                       | 0.2                | 775.5                  | 0.02                  | 99.16                     |
| 124.0-125.0  | 1.8                       | 0.2                | 775.7                  | 0.02                  | 99.18                     |
| 125.0-126.0  | 1.8                       | 0.2                | 775.8                  | 0.02                  | 99.20                     |
| 126.0-127.0  | 1.9                       | 0.2                | 776.0                  | 0.02                  | 99.22                     |
| 127.0-128.0  | 1.9                       | 0.2                | 776.2                  | 0.02                  | 99.24                     |
| 128.0-129.0  | 2.0                       | 0.2                | 776.3                  | 0.02                  | 99.26                     |
| 129.0-130.0  | 2.0                       | 0.2                | 776.5                  | 0.02                  | 99.28                     |
| 130.0-131.0  | 2.0                       | 0.2                | 776.7                  | 0.02                  | 99.30                     |
| 131.0-132.0  | 2.0                       | 0.2                | 776.8                  | 0.02                  | 99.33                     |
| 132.0-133.0  | 2.1                       | 0.2                | 777.0                  | 0.02                  | 99.35                     |
| 133.0-134.0  | 2.1                       | 0.2                | 777.2                  | 0.02                  | 99.37                     |
| 134.0-135.0  | 2.1                       | 0.2                | 777.3                  | 0.02                  | 99.39                     |
| 135.0-136.0  | 2.2                       | 0.2                | 777.5                  | 0.02                  | 99.41                     |
| 136.0-137.0  | 2.2                       | 0.2                | 777.7                  | 0.02                  | 99.43                     |
| 137.0-138.0  | 2.3                       | 0.2                | 777.8                  | 0.02                  | 99.45                     |
| 138.0-139.0  | 2.3                       | 0.2                | 778.0                  | 0.02                  | 99.48                     |
| 139.0-140.0  | 2.3                       | 0.2                | 778.2                  | 0.02                  | 99.50                     |
| 140.0-141.0  | 2.3                       | 0.2                | 778.3                  | 0.02                  | 99.52                     |
| 141.0-142.0  | 2.4                       | 0.2                | 778.5                  | 0.02                  | 99.54                     |
| 142.0-143.0  | 2.4                       | 0.2                | 778.7                  | 0.02                  | 99.56                     |
| 143.0-144.0  | 2.4                       | 0.2                | 778.8                  | 0.02                  | 99.58                     |

C Plane (°): 0.0-360.0: 30.0  
 Test Lab:  
 Test Type: TYPE C  
 Temperature: 25  
 Operator: Jacky

Gamma Plane (°): 0.0-180.0: 1.0  
 Test Device: GPM-1800B  
 Distance: 9.028 m  
 Humidity: 60%  
 Inspector:

## Zonal Lumen (Continue 4)

| Gamma<br>[°] | I <sub>mean</sub><br>[cd] | Zonal Flux<br>[lm] | Sum Zonal Flux<br>[lm] | Rel Zonal Flux<br>[%] | Sum Rel Zonal Flux<br>[%] |
|--------------|---------------------------|--------------------|------------------------|-----------------------|---------------------------|
| 144.0-145.0  | 2.5                       | 0.2                | 779.0                  | 0.02                  | 99.60                     |
| 145.0-146.0  | 2.5                       | 0.2                | 779.1                  | 0.02                  | 99.62                     |
| 146.0-147.0  | 2.5                       | 0.2                | 779.3                  | 0.02                  | 99.64                     |
| 147.0-148.0  | 2.5                       | 0.1                | 779.4                  | 0.02                  | 99.66                     |
| 148.0-149.0  | 2.6                       | 0.1                | 779.6                  | 0.02                  | 99.68                     |
| 149.0-150.0  | 2.6                       | 0.1                | 779.7                  | 0.02                  | 99.70                     |
| 150.0-151.0  | 2.6                       | 0.1                | 779.9                  | 0.02                  | 99.71                     |
| 151.0-152.0  | 2.6                       | 0.1                | 780.0                  | 0.02                  | 99.73                     |
| 152.0-153.0  | 2.7                       | 0.1                | 780.1                  | 0.02                  | 99.75                     |
| 153.0-154.0  | 2.7                       | 0.1                | 780.3                  | 0.02                  | 99.77                     |
| 154.0-155.0  | 2.7                       | 0.1                | 780.4                  | 0.02                  | 99.78                     |
| 155.0-156.0  | 2.8                       | 0.1                | 780.5                  | 0.02                  | 99.80                     |
| 156.0-157.0  | 2.8                       | 0.1                | 780.6                  | 0.02                  | 99.81                     |
| 157.0-158.0  | 2.8                       | 0.1                | 780.8                  | 0.01                  | 99.83                     |
| 158.0-159.0  | 2.8                       | 0.1                | 780.9                  | 0.01                  | 99.84                     |
| 159.0-160.0  | 2.8                       | 0.1                | 781.0                  | 0.01                  | 99.86                     |
| 160.0-161.0  | 2.9                       | 0.1                | 781.1                  | 0.01                  | 99.87                     |
| 161.0-162.0  | 2.9                       | 0.1                | 781.2                  | 0.01                  | 99.88                     |
| 162.0-163.0  | 2.9                       | 0.1                | 781.3                  | 0.01                  | 99.89                     |
| 163.0-164.0  | 2.9                       | 0.1                | 781.4                  | 0.01                  | 99.91                     |
| 164.0-165.0  | 2.9                       | 0.1                | 781.5                  | 0.01                  | 99.92                     |
| 165.0-166.0  | 3.0                       | 0.1                | 781.5                  | 0.01                  | 99.93                     |
| 166.0-167.0  | 3.0                       | 0.1                | 781.6                  | 0.01                  | 99.94                     |
| 167.0-168.0  | 3.0                       | 0.1                | 781.7                  | 0.01                  | 99.95                     |
| 168.0-169.0  | 3.0                       | 0.1                | 781.8                  | 0.01                  | 99.95                     |
| 169.0-170.0  | 3.0                       | 0.1                | 781.8                  | 0.01                  | 99.96                     |
| 170.0-171.0  | 3.0                       | 0.1                | 781.9                  | 0.01                  | 99.97                     |
| 171.0-172.0  | 3.0                       | 0.0                | 781.9                  | 0.01                  | 99.98                     |
| 172.0-173.0  | 3.1                       | 0.0                | 782.0                  | 0.01                  | 99.98                     |
| 173.0-174.0  | 3.1                       | 0.0                | 782.0                  | 0.00                  | 99.99                     |
| 174.0-175.0  | 3.1                       | 0.0                | 782.0                  | 0.00                  | 99.99                     |
| 175.0-176.0  | 3.1                       | 0.0                | 782.1                  | 0.00                  | 99.99                     |
| 176.0-177.0  | 3.1                       | 0.0                | 782.1                  | 0.00                  | 100.00                    |
| 177.0-178.0  | 3.1                       | 0.0                | 782.1                  | 0.00                  | 100.00                    |
| 178.0-179.0  | 3.1                       | 0.0                | 782.1                  | 0.00                  | 100.00                    |
| 179.0-180.0  | 3.1                       | 0.0                | 782.1                  | 0.00                  | 100.00                    |

C Plane (°):0.0-360.0: 30.0  
Test Lab:  
Test Type: TYPE C  
Temperature: 25  
Operator: Jacky

Gamma Plane (°):0.0-180.0:1.0  
Test Device: GPM-1800B  
Distance: 9.028 m  
Humidity: 60%  
Inspector: